experience in nervous diseases combined with powers of keen observation, and is made attractive by its clear style.

The writer believes that in hysteria there is a congenital or acquired deficiency in the power of the nerve elements to effect the storage of force in nerve tissues, resulting in morbid limitations of function. And that further the normal balance of action between sensory and motor nerve elements is interfered with, producing as a result increased inhibition on one side and hyper-sensitiveness on the other. The seat of this disturbance is the cortex, and vaso-motor instability accompanies and possibly causes it. In this view the influence of Meynert upon the author's line of thought is evident; the hypothesis of a correlation between cortical and subcortical action and blood supply being accepted. Many interesting facts are gathered in apparent support of this view of hysteria—which certainly is a fairly satisfactory one.

As a basis for the essay on brain tumors the writer has brought together over five hundred cases from foreign literature, and, therefore, the tables and percentages are very valuable. Such facts as the absence of headache in one-half of the cases of tumors of the cortex, the infrequency of vertigo and vomiting in tumors of the frontal lobes (18 per cent.), the occurrence of choked disk in only 22 per cent. of 362 cases; the greater frequency of this symptom in tumors affecting the base of the brain than in other locations, the greater frequency of mental symptoms in tumors of the centrum ovale (60 per cent.) than in those of the cortex alone (49 per cent.) or frontal lobes alone, are very important aids to diagnosis. The discussion of focal symptoms is admirable, the section on paralysis and spasm being very clear. Differential diagnosis is not fully discussed, the possibility of nephritis or hysteria being mistaken for tumor not being mentioned. The chief criticism which may be made is that too much stress is laid upon the statistical consideration of single symptoms and too little importance attached to their combination in individual cases.

The remaining essays on the loss of nouns in aphasia; on rotary spasm; on the prophylaxis of insanity; on the antagonism between remedies and diseases, and on hysterical locomotor ataxia will interest the neurologist.

M. A. S.

THE MILROY LECTURES ON EPIDEMIC INFLUENCES. ON THE EPIDEMIOLOGICAL ASPECTS OF YELLOW FEVER. ON THE EPIDEMIOLOGICAL ASPECTS OF CHOLERA. By ROBERT LAWSON, LL.D., Inspector-General of Hospitals; Late President Epidemiological Society; Fellow Statistical Society. 8vo. pp. 95. London: J. & A. Churchill, 1888.

THIS volume contains the first of a series of lectures to be delivered under the bequest of Dr. Gavin Milroy, who left a sufficient sum to the Royal College of Physicians of London to endow an annual course of lectures on state medicine and public hygiene.

The selection of Dr. Lawson to inaugurate the course of lectures is a fitting compliment to an experienced observer in the field of epidemiology, and most appropriate, as he was well acquainted with the views of Dr. Milroy, with whom he had been very intimate for many years.

The choice of epidemic influences as the theme for the opening course "was made under the impression that it would have met with his approval, and that it really constitutes the first step in the investigation he desired."

It has long been recognized that there exist certain factors intimately concerned in the diffusion and intensification of disease, from time to time, which are not referable to individuals or localities, and which factors have often been vaguely referred to by the conventional terms of "epidemic constitution," "epidemic influence," and "pandemic influence." Of the nature and mode of operation of these factors, little is definitely known. But we must recognize their existence and endeavor to become acquainted with the conditions under which they operate. It is for this object that Dr. Lawson has undertaken the task of collating facts, made available by long experience and close investigation, which he conceives to have an important bearing upon our knowledge of the spread of epidemics.

A study of these facts shows that the epidemic factors embrace large portions of the earth's surface at the same time, and that their course from year to year is somewhat definitely defined. With regard to febrile epidemics, which are discussed in the first chapter, he holds that when developed at various points, from time to time, they passed uniformly to the northward until they finally disappeared. They recur periodically every second year, or at some multiple of two years, and like a series of waves pass over a more or less extensive portion of the earth's surface. These waves he has named pandemic waves, but as to their nature nothing is known at present. As their position from year to year seems defined by lines of equal magnetic dip, he infers that they may be dependent in some way on that force. In order to illustrate this idea he has constructed a map on which the surface of the globe is divided into zones, marked out by iso-clinals, a plan which affords to epidemiologists a means of arranging the complicated mass of details at their disposal.

In pursuing the subject of epidemic influences, Dr. Lawson has collected in the second chapter a large amount of authenticated data relating to epidemics of smallpox, yellow fever, and the plague, which have prevailed from time to time in various portions of the globe. These data, besides furnishing an outline of the histories of notable outbreaks of disease, enable the student of epidemiology to investigate their development, the mode of their extension, and their limits as to time and space, with the view of determining, if possible, some general law under which such manifestations arise.

From the details given it would appear that smallpox, which some believe is independent of all extraneous influences save the presence of a virus and the receptivity of its subjects, is, like fevers, under "the influence of a pandemic factor which determines its development as an epidemic in some places in the first instance, and its subsequent extension to the northward in successive years." These pandemic waves appear every second year for the most part, or at some multiple of two years, though by the following of one wave upon another there is sometimes the appearance of an epidemic of three or four consecutive years. As before remarked, nothing is known of the true nature of this factor nor of its course from south to north, and of its observing a two yearly period.

Dr. Lawson has collected facts to show that under the influence of the same pandemic wave different forms of fever arise in different localities, from which he infers that there exists the operating force of additional factors. Thus, for example, in places where remittent or continued fever are the common fevers, yellow fever makes its appearance at intervals of a considerable number of years, when there existed no trace of it, indicating that there is a special factor leading to the development of this disease in a locality where the circumstances are suitable. These latter embrace states of the weather, conditions of the soil, especially that of moisture, and the presence of the particular miasm which engenders the disease.

The study of the various outbreaks of the plague shows that epidemics of this disease, like those of other fevers, are subject to a force which determines their wave-like mode of progression in the same direction, the outbreaks occurring, for the most part, in the first year of a pandemic wave, with recrudescence the following year.

Facts seem to indicate that the appearance of the benign plague is due to a separate factor concurring with the pandemic wave. Whether this form of the disease presages the appearance of the plague in its more intense form and this is its usual course, or whether the severe form is merely an intensification of the benign form, due to circumstances temporarily existing, the factor remaining the same, are questions which present investigation fails to determine.

In tracing the course of epidemics chronologically over extensive portions of the earth's surface and noting their rise, mode of progression, and decadence, Dr. Lawson observed that their movement was due to a factor which appeared to be of very general operation, and most likely connected with some of the natural forces. Careful investigation showed that this movement was approximately defined by lines of equal magnetic dip, and he, therefore, inferred that it may be dependent upon that force. Whether the theory here presented be accepted or not, Dr. Lawson must have the credit of having brought together a large number of facts showing the concurrence of phenomena indicative of the uniform action of some natural force or coöperation of forces, which may lead to further progress in the study of this abstruse subject.

The third lecture on the epidemiological aspects of yellow fever will be read with interest at the present time, in view of the prominence given to the subject by the recent outbreak of the disease in Florida. After having described yellow fever, the author proceeds to a consideration of its cause. The moot question is whether yellow fever prevailing in a locality more or less circumscribed arises from the operation of causes originating in the locality at the time, or whether the disease must have been brought by one or more persons from a locality where it was prevailing, and by them communicated to other persons; in other words, *Is* yellow fever a contagious disease, or is it of miasmatic origin, depending on causes existing in the place in which it appears, and devoid of contagion? A close analysis of a large number of notable outbreaks of the disease, especially on ships (where the opportunity for studying the facts is most favorable), has led Dr. Lawson to adopt the theory of the local or miasmatic origin of yellow fever; for, as he remarks, to accept the view of its contagiousness involves the exclusion of local causes, which the bulk of evidence used to support this theory does not permit of.

According to Dr. Lawson, cases of yellow fever imported to a healthy locality are incapable of communicating the disease, but a vessel may have the active source of yellow fever produced in her and carry it to a distance. A ship may be looked upon as a locality, like a circumscribed space on shore, and may acquire the conditions for producing yellow fever without communication with a previous case. The vessel being movable, may communicate her febrific powers to a great distance, but it cannot infect a healthy locality unless the local circumstances are favorable. Persons coming in contact with the vessel, or within range of the emanations from her, may contract the disease, but the disease will not affect persons on shore who have not thus exposed themselves. Another fact of significance is that the disease does not spread on shipboard from persons who have contracted it in an infected locality, when the vessel is free from the conditions suitable for generating the active cause of the disease.

A study of the histories of epidemics of yellow fever at Bermuda, would seem to prove that these visitations occurred without any previous introduction of persons suffering from the disease. The outbreaks on the "Susquehanna" and "Orion" in the West Indies, in 1857, also furnish evidence to sustain the same conclusion. It is, therefore, held that importation is not a necessary factor in the conditions required for the development of yellow fever.

As to the cause, it is believed to be particulate, a living miasm, developed under certain climatic and terrestrial conditions and capable of being diffused by the air. The potential factor can be air-borne, even over extensive areas, but until it meets with a suitable soil for its further development, such as the hold of a ship or a locality favorable to its production, it is incapable of giving rise to the disease.

If the above views be accepted, it follows that land quarantine against persons from a locality where yellow fever is prevailing is not only useless, but an unwarranted interference with personal liberty; and the indiscriminate and prolonged quarantine of vessels from fever ports, by ignoring the fact that vessels may have cases of yellow fever on board without being infected, is a restriction based on a want of knowledge, which imposes a needless obstruction to commerce without being of any advantage to the public health. It must be remembered that Dr. Lawson voices the English views on this subject, which are opposed, in the main, to quarantine, but which favor, in its stead, a system of "complete sanitation."

That yellow fever is not communicated directly from person to person, that the seeds of the disease are not reproduced in the human organism and migrate from it to other persons, is generally accepted. As a ship may be looked upon as a locality which is capable of acquiring the conditions necessary for producing the disease, it is possible for it to carry the infectious material to distant ports where, under favorable terrestrial and climatic influences, it may be reproduced and give rise to an epidemic.

The fourth lecture is devoted to a brief consideration of the "epidemiological aspects of cholera." Various opinions regarding the causation of cholera are presented, and the distinction between cholera nostras and malignant or Asiatic cholera fully described. The occurrence of cholera in any locality, if the persons attacked have not been away from the locality, indicates that the cause of the disease is in operation there;

but, according to Dr. Lawson, "before the appearance of the disease in the locality can be attributed to communication from a previous case which had arisen elsewhere, it is necessary to exclude the influence of local causes." He further remarks, that "there are now on record a good many instances of even extensive epidemics of cholera, which broke out at points far removed from any place where the disease was already in progress, and without any trace that could be detected of importation by man or fomites." The outbreaks in England in 1865 and in America in 1873 are given as examples of such epidemics. "Epidemic influence coinciding with local conditions" is thought to explain these outbreaks. An eruption of cholera in a locality subsequent to the importation to it of persons suffering from the disease does not, in his opinion, warrant the assumption that it has been communicated by such persons, unless the local cause be excluded, which, in most cases, the evidence does not permit of being done. Dr. Lawson believes that the manifestation of cholera in localities far removed from where the disease prevails without the intervening population being affected by it, as in the epidemics in Syria in 1875, or upon ships in mid-ocean, as in the cases of the "New York" and the "Swanton" in 1848, may be ascribed to the transport of the exciting cause by currents of air at some elevation in the atmosphere.

The opinions of authors are cited who believe that the disease is diffused from endemic areas by the influence of the winds; and those of others who hold that it frequently progresses against the wind and who, therefore, believe that the extension of epidemics is due to a considerable extent to communication from man to man.

A relation is supposed to exist between cholera nostras and malignant cholera, inasmuch as a study of the records of these diseases in different countries shows that the former disease increases in frequency and fatality in advance of an epidemic of the malignant form and moderates as the epidemic passes on; and this characteristic is of sufficiently frequent occurrence to be made use of in predicting an outbreak of malignant cholera.

In reference to cholera on board ship, it is remarked that a ship lying in an epidemic port may be regarded as a part of that locality which may become a focus of cholera, but, unlike a place on shore, can carry the active source of the disease to a great distance. It is possible for cholera to develop in persons on board a healthy ship who have been exposed to its cause on land or at sea, yet when the vessel is removed from the source of the disease by a change of locality, fresh cases of sickness usually cease after a few days. In the one case there exists the morbific agency together with conditions favorable to its further development, in the other these conditions are absent.

Without disparaging the views of Dr. Lawson on a subject concerning which there is room for a difference of opinion, it may be remarked that the general belief is that cholera is due to a germ, which being received into the alimentary canal gives rise to the manifestations of the disease. While the germ multiplies in the bowels and is principally contained in the alvine excretions—which under suitable conditions may spread the disease—it is chiefly in fluids extraneous to the body that it develops, and hence it is that drinking water and ground-water play an important *rôle* in the distribution of the disease. The germ may also be diffused by the air, by clothing, bedding, and by attaching itself to solid substances. Great humidity of the soil and an accumulation of ground-water in its superficial layers are believed to be important breeding factors of the cholera germ. The conditions for the development and diffusion of cholera are a favorable medium for the multiplication of the germ, sufficient contact with the human organism, and personal susceptibility. Climatic conditions doubtless have a modifying influence on the spread of epidemics. The idea that cholera epidemics pursue a definite course from east to west has been for the most part abandoned, and it is now the current belief that the disease is spread by human agency, by the lines of traffic, through cases attacked, whose effects, emanations, stools, carry the morbific agent and transport the disease, particularly when the conditions of the ground-water, drinking-water, and their contact with human beings favor the development and action of the germs.

The theory that cholera is autocthonous, and may arise under epidemic influence independently of a germ, cannot be sustained by the evidence at hand. Very little importance need be attached to the theory that cholera is spread to great distances under certain conditions of the atmosphere and with the winds.

Dr. Lawson's book is well worthy of perusal. It contains an imposing collection of facts which have an important bearing on the spread of epidemics, with such generalizations as the evidence at hand have permitted him to make.

His views upon the epidemiological aspects of yellow fever and cholera, especially the latter, should be read in connection with the works of recent investigators, whose opinions in some important particulars are at variance with those which he advocates. W. H. F.

THE ELECTRIC ILLUMINATION OF THE BLADDER AS A MEANS OF DIAGNOSIS OF OBSCURE VESICO-URETHRAL DISEASES.

By E. HURRY FENWICK, F.R.C.S., Surgeon (Out-patient) to St. Peter's Hospital for Stone and other Urinary Diseases; Assistant Surgeon to the London Hospital; Examiner in Elementary Physiology in the Conjoint Board in England of the Royal Colleges of Physicians and Surgeons; Assistant to the Lecturer on Physiology at the London Hospital Medical College. With thirty illustrations. 8vo. pp. 176. London: J. & A. Churchill, 1888.

THE appearance of this excellent and praiseworthy monograph is very opportune. Heretofore, there has been no demand or want for such a work as this, which is destined to create that want, simply because the general profession, or even specialists, have scarcely yet had time to become aware of the marvellous capabilities and practical advantages of the beautiful cystoscopes and urethroscopes which have recently been brought to such great perfection by Nitze, of Berlin, and Leiter, of Vienna. We had the pleasure of witnessing the accurate workings of these two instruments, shortly after their introduction at Berlin, a year since, and it is a matter of great regret that the use of such valuable adjuncts to diagnostic research are not yet in general use.

The work is cleverly written in a clear, attractive style, and the